

A B S T R A C T

A METHOD OF FABRICATING A ZIRCONIUM ALLOY FLAT PRODUCT, A
PRODUCT AS OBTAINED THEREBY, AND A FUEL ASSEMBLY ELEMENT
5 FOR A POWER STATION NUCLEAR REACTOR MADE FROM SAID FLAT
PRODUCT

A method of fabricating a zirconium alloy flat
product, the method being characterized by: preparing or
10 casting a zirconium alloy ingot containing at least 95%
by weight of zirconium, and including the usual
impurities and alloying elements; shaping said ingot in
order to obtain a flat product; subjecting said flat
product to a β quenching operation under conditions that
15 are determined to obtain within the flat product an
acicular structure at the end of said β quenching;
subjecting said flat product, after the β quenching, to a
rolling operation performed in a single rolling sequence
without intermediate annealing, said rolling being
20 performed at a temperature lying in the range ambient to
200°C, and having a reduction ratio lying in the range 2%
to 20%; and subjecting said rolled flat product to an
annealing treatment in the α range or in the $\alpha + \beta$ range,
performed in the temperature range 500°C to 800°C for
25 2 minutes to 10 hours. A zirconium alloy flat product as
obtained by the method, and a fuel assembly element for a
power station nuclear reactor obtained by shaping the
product.

30

35 Translation of the title and the abstract as published by the PCT Authorities,
possibly after making changes, ex officio, e.g. under PCT Rules 37.2, 38.2, and/or
48.3.